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# PUBLIC HEALTH REPORTS *in Brief*

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## **Pilot Test of a Cervical Cancer Prevention Video Developed for Alaska Native Women**

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The opinions expressed in this paper are those of the authors and not of the Indian Health Service.

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### **Synopsis** .....

*Cancer of the cervix is twice as likely to occur among Alaska Native women than among Caucasian women in the United States. To understand some of the factors associated with this high incidence, a random sample of 528 Alaska Native women were surveyed about their knowledge, attitudes, and behavior regarding cervical cancer and its risk factors. From the results of the Alaska Native Women's Health Project study, the need for more public education related to cervical cancer prevention was identified.*

*A review of existing educational resources revealed that no culturally appropriate materials related to cervical cancer had been developed for Alaska Native women. To increase Native women's knowledge about cervical cancer and to motivate them to obtain annual Papanicolaou tests, a 12-minute videotape presentation was developed specifically for this population. The videotape portrayed Alaska Native women as role models from the community discussing cervical cancer and Papanicolaou tests and engaging in healthy lifestyles.*

*The videotape was pilot tested with several groups of Alaska Native women. The women were surveyed before and after watching the video and were asked to rate the tape and make comments about it. The results of the posttest demonstrated a significant increase in the knowledge level of the participants.*

*The videotape was well received because of its cultural sensitivity and appropriateness. On the basis of this study, the development of additional culturally appropriate educational materials related to cancer prevention for Alaska Native women is recommended.*

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The term, "Alaska Native" refers to the Indigenous People of Alaska who are Eskimos, Indians, and Aleuts. Within these three major ethnic groups, multiple linguistic and cultural subgroups can be identified including four Eskimo groups (Sugpiaq, Central and Siberian Yupik, and Inupiaq); four Indian groups (Athabaskan, Tlingit, Tsimpsian, and Haida); and Aleuts (1). Approximately 60 percent of the Native People in Alaska live in areas originally inhabited by their ancestors in communities (villages) ranging from 20 to 5,000 persons (2).

Cancer is the leading cause of death of Alaska Native women. Cancer of the cervix is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death of Native women in Alaska (3-5). The incidence of invasive cervical cancer among Alaska Native women between 1984 and 1988 was 28 per 100,000, compared with 8.6 among white women in the United States (6).

Mortality from cervical cancer between 1984 and 1988 was 9.3 per 100,000 among Alaska Natives, 2.4 for non-Natives in Alaska, and 3.1 for the total U.S. population (6).

These elevated rates among Alaska Natives are attributed to the high prevalence of cervical cancer risk factors, particularly tobacco use, multiple sex partners, and sexually transmitted diseases. The use of both cigarettes and smokeless tobacco among Alaska Natives is the highest in the nation (7). Current cigarette use among adult females approaches 60 percent (7). Sexually transmitted diseases are suspected to be prevalent among Native women (8), according to the results of an unpublished STD surveillance study by J. Palmer of the Alaska Area Native Health Service. Human papilloma virus (HPV), which is highly associated with cervical cancer, has also been documented to occur at increased rates, according to an unpublished case

### **Pretest Administered to the Sample of Alaska Native Women in the Video Pilot Test Study**

You are not obligated to complete this survey. All information is confidential and anonymous. After you read each statement, decide if it is true, false, or you are unsure.

T = True    F = False    U = Unsure, Don't know

- \_\_\_ A Pap test checks for signs of cervical cancer.
- \_\_\_ Most women need Pap tests every year.
- \_\_\_ As soon as a woman is 18 or becomes sexually active, she should have a Pap test.
- \_\_\_ Women who have had a hysterectomy (womb/uterus removed) need regular Pap tests.
- \_\_\_ Even if a woman is not sexually active, she should have regular Pap tests.
- \_\_\_ Alaska Native women are more likely to have cervical cancer than non-Native women.
- \_\_\_ A good way to remember to schedule your Pap test is by using your birthday as a reminder.
- \_\_\_ Having a Pap test is a good way for women to take care of themselves.

control study of Alaska Native women with cervical dysplasia and HPV.

In addition to the prevalence of cervical cancer risk factors, Alaska Native women tend to underuse cancer screening services. Among women ages 20 years and older, approximately 40 percent obtained Papanicolaou (Pap) tests last year, and only 16 percent obtained Pap tests each year for the past 3 years, according to the preliminary results of the Knowledge, Attitudes, and Behavior Survey of the Alaska Native Women's Health Project. Poor use of cervical cancer screening services has been partially attributed to cultural barriers and to lack of knowledge, the survey determined.

In 1989, the National Cancer Institute funded several projects to promote cancer prevention among Alaska Native and American Indian women. One of the projects, which serves as a basis for this study, is currently being conducted by the Alaska Area Native Health Service, Indian Health Service, and the Aleutian/Pribilof Islands Association, a nonprofit Alaska Native health corporation. In the Alaska Native Women's Health Project, 528 women were interviewed about their knowledge, attitudes, and behaviors regarding cancer screening tests and risk factors. From these interviews it was learned that most women were not aware of the importance of annual Pap tests, and only 46 percent could correctly identify the Pap test as a screening test for cervical cancer.

A review of existing educational resources related to cervical cancer risk factors and screening revealed a lack of culturally appropriate materials. On the basis of this finding, the Alaska Native Women's Health Project team developed a videotape and a brochure about the Pap test and cervical cancer that were designed specifically for Alaska Native women.

Studies have demonstrated the efficacy of videotapes in addressing a variety of health issues. As an educational vehicle, videotapes have been found to be superior to written materials in educating some populations (9). Videotapes also have been found to be effective in increasing short-term knowledge (9) and in promoting long-term retention of information (10). However, no studies on the effectiveness of videotapes as a teaching tool have been carried out with Alaska Natives.

The development of a videotape to increase Alaska Native women's knowledge about cervical cancer and to motivate them to get annual Pap tests was based on characteristics inherent to the cultures of Alaska Natives. Two important learning mechanisms among Native People are role-modeling and story-telling, both of which can be easily incorporated into a videotape. The project team believed if the story portrayed Alaska Native women role models from the community engaging in healthy lifestyles, we could reach many Native women. To enhance the cultural appropriateness of the video, we showed older female relatives sharing stories and experiences with a young woman celebrating her 18th birthday. This method of educating girls as they become young women is common to all Alaska Native tribes. To broaden the applicability of the video, we chose women to represent each Alaska tribe so that each viewer could identify with at least one woman.

### **Methods**

To measure the effectiveness of this video as an educational method and its cultural acceptability, the video was pilot tested with 90 women from several groups of Alaska Natives. The women included health aides, high school students, health educators, pregnant teens, elders, health care providers, and women in a residential alcohol treatment program. The women were from all over Alaska including Nome, Kotzebue, Fairbanks, Bethel, Anchorage, Juneau, and several small rural villages.

The various groups of women were contacted and asked to participate in the video review. The women were administered a written pretest, viewed the 12-minute videotape, and were then administered a posttest. The surveys were voluntary, anonymous, and

confidential. The pretest consisted of eight statements (see box). The reviewers were instructed to read each statement and then decide if it was true, false, or if they were unsure of the correct answer.

After the women viewed the video, the posttests were administered. It consisted of the same eight statements as the pretest. It also asked the respondents what they liked about the video and asked them to rate the video on a scale of 1 (poor) to 10 (excellent). The women also were asked to specify their age, years of education, and community of residence.

Demographics were examined using SPSS frequencies and descriptive statistics. The pre- and posttest results were analyzed using SPSS *t*-test for paired samples (11).

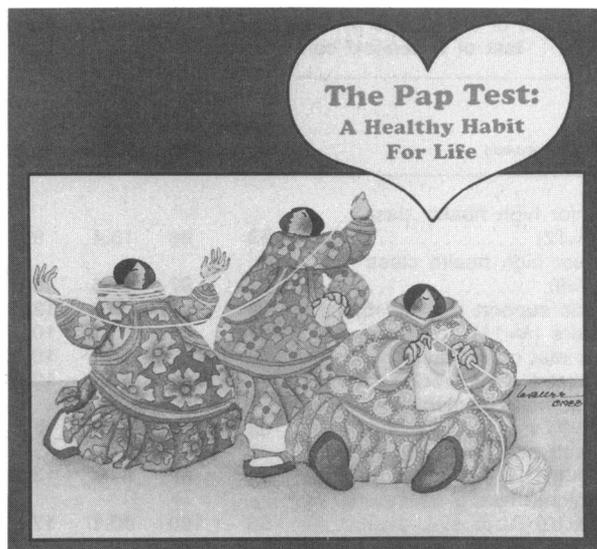
## Results

The ages of the women ranged from 14 to 70 years with a mean of 34 years. The number of years of formal education ranged from 4 (grade school) to 24 (postdoctoral) with the mean of 12.7. The eight statements in the pretest and posttest were all true and were based on the information discussed in the video. The surveys were scored according to the number of correct (true) responses over the total number of statements (eight). The overall mean pretest score was 75 percent (SD 20.31; 95 percent confidence interval 71.19, 79.79) and the overall mean posttest score was 96 percent (SD 8.58; 95 percent confidence interval 94.45, 98.07). The overall mean difference between the pre- and posttest scores was 20.79 (SD 20.03; 95 percent confidence interval 16.57, 25.01).

Comparing the mean scores from the pre- and posttests in a two-tailed paired sample test, we determined a significant difference in performance ( $P < .001$ ). The overall number of "false" answers changed from 79 (11 percent) in the pretests to 14 (1.9 percent) in the posttests. The overall number of "unsures" changed from 96 (13 percent) to 11 (1.5 percent).

The group demonstrating the greatest gain in knowledge was the senior high school health class. The mean pretest score was 53 percent and the mean posttest score was 98 percent. The group showing the least amount of change in the pre- and posttest scores was the community health personnel who included several mid-level practitioners (see table).

To identify further the knowledge level of cervical cancer and Pap tests according to age, mean scores were calculated for several age groups. The mean pretest score for all 26 women ages 14 to 19 was 61



Cover of the brochure on the Pap test and cervical cancer distributed to Alaska Native women. Art work by Barbara Lavallee and Artique, Ltd., Anchorage

percent and the mean posttest score for this age group was 97 percent. For 20 women between ages 20 and 34 years, the mean pretest score was 79 percent, and the mean posttest score was 99 percent. The pretest score for 33 women between ages 35 and 50 was 86 percent, and the posttest score was 97 percent. For 11 women older than age 50, the mean pretest score was 73 percent and the mean posttest score was 86 percent.

The pretest statement that was least likely to be scored as true was, "Alaska Native women are more likely to get cervical cancer than non-Native women." In all, 52 women (58 percent) did not score the statement as true, with half believing it was false and half being unsure.

Of the women who missed this question, 44 percent were younger than 18 and 27 percent were older than 40. These age groups represent women outside the traditional childbearing years who may not be exposed to health education as frequently as women in those years. This statement was also more likely to be missed by nonurban women, 71 percent in comparison with 46 percent, presumably because of the widespread media coverage of cervical cancer in the local newspaper in the past several years. The question most likely to be answered correctly (by 87 women) in the pretest was, "Having a Pap test is a good way for women to take care of themselves."

On a scale of 1 to 10, with 1 being poor and 10 being excellent, the mean overall rating of the videotape was 8.6. The lowest rating was a 4 (by two women) and the highest rating was a 10 (by 26

Pretest and posttest score percentages, age, and years of education of the groups of Alaska Native women in the pilot test of a cervical cancer prevention video

Group of women	Mean scores		Mean Age (years)	Mean years of education
	Pretest	Posttest		
Senior high health class (N=12)	53	98	15.4	9.3
Junior high health class (N=8)	59	97	14.3	8.0
Clinic support staff (N=5)	73	98	33.0	12.8
Elders (N=11)	74	89	66.7	10.9
Prenatal class (teens) (N=5)	75	95	17.8	10.0
Prenatal class (N=2)	75	100	34.5	12.0
Residential women's program (N=7)	82	100	27.3	11.7
Health education department (N=15)	84	98	34.6	13.7
Regional health educators (N=10)	86	100	40.1	17.8
Patient education department (N=3)	87	100	41.0	16.0
Community health department (N=12)	88	94	42.7	18.0

women). The median rating was 9 and the mode rating was also 9 (by 30 women).

In response to the open-ended question, what women had learned from the video, the most frequent response (by 31 women) was that they learned that they needed to get annual Pap tests. The second most frequent response (by 26 women) was that they learned that Native women were more likely to get cervical cancer than non-Native women. Responding to the open-ended question regarding what women liked about the video, 60 percent answered that they liked it because it was culturally sensitive and used Alaska Native women role models.

### Discussion

The results of this pilot test demonstrate a significant change in the knowledge level of the participants. We attribute this change to the videotape. Although it can be argued that some of the learning can be attributed to the pretest, we feel its effect is minimal because the statements are relatively simple and are generally common knowledge.

The comments of the participants indicated that the video was well-received, and it was culturally sensitive and culturally appropriate. It is unknown how much, if any, this contributed to the change in the pre- and posttest scores. However, it is possible that, because the video used Native women as role models, the viewers paid greater attention to the information because it was more personally relevant.

Based on these results, we believe that this video is

effective as an educational tool with Alaska Native women of all ages, years of education, and tribal affiliations. To evaluate whether the video is effective in changing behavior, Pap test screening rates will be monitored in each community in Alaska where the video will be distributed.

There is a paucity of educational materials that are culturally appropriate for Alaska Natives. Considering the prevalence of cancer among Alaska Native People, it is our hope that more audiovisual materials are developed, evaluated, and distributed.

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